REMARKS

Applicants' would like to thank the Examiner for the careful consideration given to this case and the telephonic interview on March 22, 2006 with the Applicants' agent John Pillion. In complying with Applicants' responsibility to provide a complete written statement of the interview, 37 C.F.R. §1.133 (MPEP §713.04), Applicants' note that claims 1, 7, 15, 19, and 21 were discussed and that the Jha reference (U.S. Pat. No. 6,080,219) and Zeller reference (U.S. Pat. No. 5,487,771) were also discussed.

During the interview, the Applicants' and the Examiner discussed the foam and aerogel disclosed in the Jha et al. reference. It was agreed that in view of the proposed amendments of independent claims 1, 15, 19, and 21, that a foam base was not a porous base material of sintered metal particles and the amendment would overcome the reference. Applicants' and the Examiner also agreed that an aerogel was not a layer of porous sintered nanoparticle material sintered to the porous base in proposed amended claims 1, 15, 19, and 21. The Examiner and Applicants' agreed that the proposed amendments would overcome the Zeller reference as applied to claim 4.

During the interview, Applicants' proposed to cancel claims 8-14 and to amend claim 7 to depend from claim 1; the Examiner agreed to consider these changes.

Claims 1-7, 15-17, 19, and 21-28 are pending in the case. Claims 1, 7, 16, and 21-24 have been amended. In order to facilitate prosecution of the pending application, and without giving up the right to pursue the claims as originally filed in one or more subsequent continuing applications, Applicants' have canceled claims 8-11; claims 12-14, 18, and 20 were previously canceled, no new matter has been added.

(Item 3) In col. 4, lines 50-60 Jha discloses an aerogel with pores 10-100 nm which is not a porous sintered nanoparticle material sintered to the porous base as recited in independent claims 1, 15, 19 and 21. Aerogels are formed by hydrolysis and condensation of liquid metal alkoxide reagents; they are not formed by sintered nanoparticle materials. The portion of Jha which the Examiner cites, (col. 5, lines 24-27) recites is a porous foam, not a porous base material of sintered metal particles.

Although claim 10 was canceled, Applicants pending claims 1 and 21 recite that the base is a porous base material of sintered metal particles. The base material of Jha is a foam and not a porous base material of sintered metal particles. Jha (col. 1, line 50 – col. 2, line 21) teaches away from a porous sintered base because of its alleged weakness. Unexpectedly, applicants have prepared elements with good strength that are structures capable of being used in supercritical fluid handling systems and differential pressures of 60 psi or more.

(Item 5) The Examiner has rejected claims 1-3, 5-11, 21-25, and 28 under 35 U.S.C. § 102 (b) as allegedly being anticipated by Jha et al. Claims 8-11 were canceled. As amended, claims 1 and 21 recite a porous base material of sintered metal particles and a layer of sintered nanoparticle material sintered to the porous base (instant specification [0013]). Jha discloses a small pore aerogel (10-100 nm) filling the pores of a foam; an aerogel is not a layer of porous sintered nanoparticle material sintered to a porous base and further, the foam base whose pores have been filled with powder or an aerogel is not a porous base of sintered metal particles.

Regarding claim 5, since Jha does not disclose the porous composite material of claim 1, it cannot have disclosed it with a gas, liquid, supercritical fluid or combinations of these.

Further, Jha et al. (col. 10, lines 30-55) characterize the bubble point of the nickel foam based filtration tubes and found a bubble point of about 0.5 micrometers. One skilled in the art would know that such a filter would provide a sieving LRV in a fluid of about 2 for 0.5 micrometer particles, but less than 2 for 0.2 micrometer particles.

With regard to claim 21, 22, and 28, as amended claim 21 is a porous base material of sintered metal particles and a layer of porous sintered nanoparticle material sintered to the porous base. Claim 21 was amended for clarity to recite that it has a sieving LRV (see instant specification [0014]) of at least 2 for 0.2 μm or larger particles in water. Although Jha teaches that the filtration tubes have an LRV of 9 to 9.95 for 0.1 micron particles, it would be known to one skilled in the art, or from Applicants' specification [0005], or from the incorporated reference in Jha (U.S. Pat. No. 5,937,263 col. 1, line 20-25) that this is not a "sieving LRV." Rather Jha's LRV is for interception and diffusion capture for the 0.1 micron particles from a process gas flow (col. 1, lines 10-25). Such a filter will not have a sieving LRV

of 2 in a liquid for 0.2 micron particles. Further, Jha et al., (col. 10, lines 30-55), characterize the bubble point of the foam powder filtration tube composites, as indicating a largest pore size of about 0.5 micrometers. One skilled in the art would know that such a filter would provide a sieving LRV in a liquid of about 2 for 0.5 micrometer particles, but less than 2 for 0.2 micrometer particles. Accordingly, the filtration tubes of Jha will not inherently have a sieving LRV of at least 4 for 0.05 μm particles in water as recited in claim 22.

With regard to claims 23 and 24, the Examiner argues that because of their "fine" pore structure, that the filtration tubes of Jha will inherently have and LRV of at least 4 for 0.05 μm particles. As argued above, the filtration tubes of Jha will not inherently have a sieving LRV of at least 4 for 0.05 μm particles in water. Claims 22-24 were amended to clarify a sieving LRV as disclosed in the instant specification [0047].

With regard to claim 25, Jha does not disclose a porous base material of sintered metal particles and a layer of porous sintered nanoparticle material sintered to the porous base.

Since Jha et al. does not disclose all the elements of claim 1 and 21, or their pending dependent claims 2-3, 5-7, and 22-25 and 28, it is respectfully submitted that the claims are in condition for allowance and that the Examiner's rejection be withdrawn.

(Item 6) Claims 15 and 16 stand rejected by the Examiner under 35 U.S.C. § 102 (b) as allegedly being anticipated by Jha et al. Since Jha does not disclose a sintered porous composite material comprising a porous base material of sintered metal particles with a layer of porous sintered nanoparticle material sintered to the porous base as recited in claim 1, Jha could not have anticipated a method of using it. Claim 16 was amended to further clarify that the material can be removed by sieving filtration as disclosed in paragraph [0017] of the instant specification.

(Item 8) Claim 4 stands rejected by the Examiner under 35 U.S.C. § 103 (a) as allegedly being unpatentable over Jha et al. in view of Zeller. According to the Examiner it would have been obvious to incorporate the dendritic shapes of Zeller into the particles of Jha to form filter elements with higher pore area.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure (MPEP §2143).

Jha et al. uses a foam base and does not teach a porous base material of sintered metal particles and layer of porous sintered nanoparticle material sintered to the porous base with a smallest aspect of less than about 200 nanometers as recited in claim 4. The combination of references do not teach all of the claim limitations and it is respectfully requested that the Examiner's rejection be withdrawn.

(Item 9) Claim 17 stands rejected by the Examiner under 35 U.S.C. § 103 (a) as allegedly being unpatentable over Jha et al. in view of Subramaniam. Claim 15 depends from claim 1, the combination of references does not teach or suggest all the limitations of currently amended claim 1 or claim 15, and therefore a method for removing material from a fluid by such a material would not have been obvious. It is respectfully requested that the Examiner's rejection be withdrawn.

(Item 10) Claim 19 stands rejected by the Examiner under 35 U.S.C. § 103 (a) as allegedly being unpatentable over Jha et al. in view of Spiegelman et al. The combination of Jha and Speigelman does not include all the limitations of claim 1 or 19 and it is respectfully submitted that the Examiner's rejection be withdrawn.

(Item 11) Claim 26 stands rejected by the Examiner under 35 U.S.C. § 102 (b) as allegedly being anticipated by, or in the alternative , under 35 U.S.C. § 103 (a) as allegedly being obvious over Jha et al. Claim 26 depends from amended claim 21 which recites a porous base material of sintered metal particles with a layer of porous sintered nanoparticle material sintered to the porous base; the composite with a sieving LRV of at least 2 for 0.2 μm or larger particles

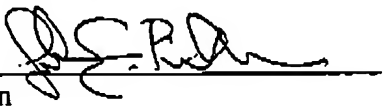
in water. Jha does not teach all the elements of claim 26, therefore it is not anticipated or obvious.

Applicants' note that an aerogel does not constitute nanoparticles sintered to the porous base of sintered metal particle as recited in claim 26. Aerogels are fragile materials that are formed by the condensation and hydrolysis of metal alkoxide reagents from solution. Jha characterizes sintered powder media as having low mechanical strength (col. 1, lines 55-60). One would not be motivated to use the teaching of Jha to make the composite material of claim 26. It is respectfully submitted that the Examiner's rejections of claim 26 be withdrawn.

(Item 12) Claim 27 stands rejected by the Examiner under 35 U.S.C. § 103 (a) as allegedly being unpatentable over Jha et al. Jha does not teach a porous base material of sintered metal particles having a layer of porous sintered nanoparticle material sintered to the porous base with a sieving LRV of at least 2 for 0.2 μm particles in water. Accordingly, the reference does not teach or suggest all the claim limitations and it is respectfully submitted that the Examiner's rejection of claim 27 be withdrawn.

In view of the remarks presented above, it is respectfully submitted that all of the claims are in condition for final allowance and notice to such effect is respectfully requested. Although Applicant believes no fees are due, the Commissioner is hereby authorized to charge deposit account No. **501-908** for any fees that may be due in connection with this response. Should the Examiner have any questions regarding these remarks, the Examiner is invited to initiate a telephone conference with the undersigned.

Respectfully Submitted,



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